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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,326	06/22/2001	George Weiner	C1039/7052 (AWS)	7237

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EXAMINER	
ANGELL, JON E	
ART UNIT	**PAPER NUMBER**
1635	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/888,326	WEINER ET AL.	
	Examiner	Art Unit	
	Jon Eric Angell	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,8,9,11,14,15,17-21,24,34,43,56 and 78-104* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,8,9,11,14,15,17-21,24,43,56 and 83-99* is/are allowed.

6)☒ Claim(s) *34,81,82 and 100-104* is/are rejected.

7)☒ Claim(s) *78-80* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/11/06*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *10/10/06* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/20/2006 has been entered.

Claims 1, 8, 9, 11, 14, 15, 17-21, 24, 34, 43, 56 and 78-104 are currently pending and are examined herein.

Any rejections not reiterated in this action have been withdrawn as being obviated by the amendment of the claims and/or applicant's arguments.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/11/2006 is acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112, first paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 34, 81, 82, 100-104 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Written Description Guidelines for examination of patent applications indicates, "the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, or by disclosure of relevant, identifying characteristics, i.e. structure or other physical and/or other chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show applicant was in possession of the claimed genus." (See MPEP 2164).

In the instant case the claims encompass a method of treating a subject having a B cell malignancy wherein the method comprises first identifying a surface antigen of the malignant B cells whose expression is upregulated in response to administration of an immunostimulatory CpG oligonucleotide wherein the surface antigen is expressed by the malignant B cells in an amount lower than that of normal B cells, and then administering an immunostimulatory CpG oligonucleotide and an antibody specific for said surface antigen in an amount effective to treat the subject.

Therefore, the claims encompass a method of treatment that requires an adequate written description of the genus of surface antigens which are upregulated in response to immunostimulatory CpG oligonucleotide. However, the genus of tumor antigens which are upregulated in malignant B cells in response to immunostimulatory oligonucleotide potentially

encompasses an enormous number of different surface antigens including surface antigens that have yet to be identifies.

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of compete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof. In this case, the specification does not sufficiently describe the distinguishing characteristics of the members of the genus required to adequately describe the entire genus encompassed by the claims. The specification has only identified a few specific malignant B cell surface antigens which are upregulated in response to immunostimulatory CpG oligonucleotide (e.g., CD19, CD20 and CD22). However, this disclosure is insufficient to adequately describe any other antigen which is upregulated in response to CpG oligonucleotide, such as those that have yet to be identified. Accordingly, in the absence of sufficient recitation of distinguishing identifying characteristics, the specification does not provide adequate written description of the claimed genus.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states, "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the genus of surface antigens encompassed by the claims without performing additional experimentation. In view of

Vas-Cath, conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

Here, it is impossible to predict which surface antigens of the malignant B cells (other than those that are explicitly disclosed in the specification) would be upregulated in response to immunostimulatory CpG oligonucleotide. Therefore, the claim encompass antigens which are not adequately described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Only the surface antigens upregulated by CpG oligonucleotide which are explicitly identified in the specification (e.g., CD19, CD20, CD22) meet the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Claims 34, 81, 82, 100-104 are also rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Although the specification is enabling being enabling for the claimed method wherein the surface antigen is one of the specific antigens identified in the specification as being upregulated in malignant B cells in response to immunostimulatory CpG (e.g., CD19,

CD20 or CD22), the specification does not reasonably provide enablement for the entire scope of the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

As indicated above, the claims encompass a method of treating a subject having a B cell malignancy wherein the method comprises first identifying a surface antigen of the malignant B cells whose expression is upregulated in response to administration of an immunostimulatory CpG oligonucleotide wherein the surface antigen is expressed by the malignant B cells in an amount lower than that of normal B cells, and then administering an immunostimulatory CpG oligonucleotide and an antibody specific for said surface antigen in an amount effective to treat the subject.

As mentioned in the written description rejection above, the claims encompass tumor antigens which are not adequately described in the specification. Therefore, additional experimentation is required in order for one of skill in the art to be able to make and use the invention. In order to make and use the claimed invention, a number of antigens which would be representative of genus of antigens encompassed by the claims would have to be identified.

Regarding the description of a representative number of species, the written description guidelines note, "a satisfactory disclosure of a 'representative number' depends on whether one of skill in the art would recognize that the applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the species disclosed." (Emphasis added; see: Federal Register: December 21, 1999, Volume 64, Number 244; revised guidelines for written description). In the instant case, no common

attributes or features are disclosed. There is no indication of any relevant common structural/chemical characteristics, and no identification of any structural limitations/requirements which provide guidance on the identification of molecules that meet the functional limitations. Identification of the attributes/features common to the members of the genus which are sufficient to identify a member of the genus without further experimentation is required. Identifying these attributes/features would require a tremendous amount of experimentation. Therefore, it is concluded that an undue amount of additional experimentation is required for one of skill in the art to be able make and use the broadly claimed invention. Furthermore, claim 100 indicates that the surface antigen is not expressed on the malignant B cells. If the surface antigen is not expressed on the malignant B cells, it is unclear how the method would result in treatment as the therapeutic antibodies target the surface antigens. If the surface antigens are not expressed on the malignant B cells, then one of skill in the art would not expect the method to be able to treat the subject since the antibodies would not bind to the malignant B cells.

It is noted that amending the instant claims to the specific tumor antigens which are shown to be upregulated in response to the immunostimulatory CpG oligonucleotide and to specifically indicate that the surface antigens are expressed on the surface of the malignant B cells would obviate these rejections.

Claim Objections

Claims 78-80 are objected to as being dependent upon a rejected base claim.

Response to Amendment/Arguments

Applicant's arguments filed 10/20/2006, with respect to the rejection(s) of claim(s) under 35 U.S.C. 103 have been fully considered and, in view of the amendment to the claims, are persuasive. Therefore, the rejection(s) has/have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 U.S.C. 112, first paragraph, for the reasons indicated herein.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Eric Angell whose telephone number is 571-272-0756. The examiner can normally be reached on 9:00 a.m.- 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Douglas Schultz can be reached on 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J.E. Angell, Ph.D.
Art Unit 1635

JON E. ANGELL, PH.D.
PRIMARY EXAMINER